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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,049	01/15/2002	Monika Oswald	218230US0X	2944

22850 7590 10/25/2004

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ALEXANDRIA, VA 22314

EXAMINER

STEIN, STEPHEN J

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/045,049

Applicant(s)

OSWALD ET AL.

Examiner

Stephen J Stein

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 9-13 and 16-34 is/are pending in the application.
- 4a) Of the above claim(s) 18-20 and 31-33 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-30 is/are allowed.
- 6) ☒ Claim(s) 9-13, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on December 22, 2001. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

### *Claim Rejections - 35 USC § 102*

2. Claims 9, 13 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,297,143 (Kleinschmit et al.).

Kleinschmit teaches a pyrolytically produced silicon dioxide mixed oxide comprising 0.01 to 9.9 weight percent titanium dioxide for use as thermal insulation (see abstract). Kleinschmit further teaches that that the mixed oxides have a Bet surface area of 50 to 400 m<sup>2</sup>/g (col. 1, lines 44-46) and that product can be used as thermal insulation in free bulk form or as a compacted mixture (See abstract). It is the examiner's position that if the silicon dioxide mixed oxide in compacted form is used as thermal insulation, it necessarily must be in the form of layer on a substrate.

With regard to the process limitations recited in the claims, process limitations in product claims are generally not dispositive on patentability unless it is shown that the process limitations produce a materially different product. MPEP §2113.

***Claim Rejections - 35 USC § 103***

3. Claim 10-12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleinschmit et al.

As sated above, Kleinschmit teaches a compacted layer of a pyrolytically produced silicon dioxide mixed oxide comprising 0.01 to 9.9 weight percent titanium dioxide wherein the mixed oxide particles have a Bet surface area of 50 to 400 m<sub>2</sub>/g.

Although the Kleinschmit reference fails to teach the claimed thickness (a result effective variable) of the silicon dioxide mixed oxide, absent a showing of criticality with respect to the thickness, it would have been obvious to one of ordinary skill in the art to optimize the thickness in order to provide a desired level of insulation. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It further would have been obvious to one of ordinary skill in the art at the time of the invention to apply the mixed oxide to a silica glass or a glass-ceramic substrate because these are materials which are known in the art to need thermal insulation.

***Allowable Subject Matter***

4. Claim 14 and 15 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 21-30 are allowed over the prior art of record.

6. The following is a statement of reasons for the indication of allowable subject matter:
- None of the prior art or record teaches the claimed layer of mixed oxide powders having the claimed BET ratio.

### *Response to Arguments*

7. Applicants have amended the claims to recite "An article comprising a layer and substrate..." and argue that the Kleinschmit reference "only discloses mixed oxide powders in a free or bulk form that are useful for thermal insulation", while the present invention provides "an article comprising a layer on a substrate wherein the layer is obtained by thermal treatment of an aqueous dispersion that as been applied to a substrate, the dispersion containing silicon/titanium mixed oxide powder prepared by flame hydrolysis and the titanium dioxide content of the powder ranges from 2 to 20 wt.%". Applicants further argues that the claimed invention is distinct from the art of record because the physical state of matter is different than that in the Kleinschmit reference.

This argument has been carefully considered, but not deemed persuasive. First, while the Kleinschmit reference does disclose the powders in a bulk form, the reference also specifically discloses that the mixed oxide powder may be used as thermal insulation in a *compacted* form (e.g. form of a layer which is next to a substrate) (See Abstract). In this reference, it therefore is being disclosed not only the composition of the mixed oxide, but also the use of the mixed in oxide in a compacted form next to something (as substrate) to act as insulation. With regard to the limitation that the "layer is obtained by thermal treatment of an aqueous dispersion", this is a

process limitation in a product claim and does not provide a patentable distinction over the prior art unless it is shown that product is materially different over that of the prior art. See MPEP 2113. The rejections are maintained over the prior art of record.

***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

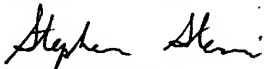
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen Stein whose telephone number is 572-272-1544. The examiner can normally be reached on Monday through Friday from 8:30 a.m. to 5:00 p.m. If the attempts to reach the examiner are unsuccessful, the examiner's supervisor, Deborah Jones can be reached by dialing 571-272-1535. The official fax number is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 21, 2004



Stephen J. Stein  
Primary Examiner  
Art Unit 1775